added.

The terms "frequency band" and "frequency cell" are commonly used in the art in essentially the same way as the applicant. For the term "frequency bin", a computer search of recent abstracts on the PTO CASSIS/CD ROM disk in the bibliographic information files reveal a number of Patent Abstracts which essentially uses the term in the sense that applicant uses it and as provided in the definition incorporated into the specification. In reference to the term "frequency cell", a somewhat similar and analogous use is shown in the patent of Taylor, et al. 4,445,118, column 9, the paragraph beginning at lines 26 and extending through line 47, and Figs. 6a, 6b show such "cells".

The rejection of claims 1, 2, and 4 under 35 USC 102(e) as being anticipated by Geier patent 5,202,829 is respectfully traversed.

Geier relates to a sea-based surveying system for exploring for oil and hence, is not in any way suitable for use where the satellites may be occasionally blocked as on roads and urban areas or in heavily forested regions. Moreover, the tailbuoy sub-systems (TBS) has a GPS sensor 60 and the object is to find the relative distance between the GPS receiver. The ship-based computer system collects data from the various ship equipment, including the ship's GPS receiver and data from the several tailbuoy GPS receivers. However, the tailbuoy receivers are <u>not</u> a source of "satellite message block data contain the ephemeris

and time modes of the GPS satellites." In Geier, each GPS receiver sends data in the form of raw pseudo-ranges (see Fig. 5 of Geier).

In applicants case, the time bottleneck in determining the precise position location - the necessity to read the 900 bit GPS satellite message block containing the epheremis and satellite clock bottles of the GPS satellite is avoided.

Two GPS navigation message data formats are illustrated at pages 282-283 of a recent text on radio navigation systems which illustrates the GPS navigation message data blocks, along with a copy of an article in the Journal of Navigation dealing with the message structure (copies attached).

Clearly, Geier performs the standard search and acquisition and each GPS sensor including those at the tailbuoy and the one at the shipboard takes essentially the same time to determine their position and clearly do not use an earth based source of satellite message data for all in-view satellite for assisting the mobile radio station e.g., the shipboard station, or the tailbuoy stations to rapidly access position information from the satellite.

The Examiner refers to column 4, lines 68 through column 5, lines 1-68 but these do not provide the information. Note that at column 5, line 2, the "epheremis and ionospheric correction data" is for the ship and not for the GPS satellites. Note that in Fig. 3, the ship CMR and epheremis and ionospheric data are fed into the computer along with the eight channel output from

the GPS receiver 50 but there is no input that appears to correspond to a navigation Message Data Block and of the character shown in the attached text material.

Claims 3 and 5 were rejected under 35 USC 102(e) as being anticipated by King patent 5,175,557. The subject matter of claim 3 is now made dependent from claim 1 and is in claim 15 and the subject matter of claim 5 is now in new claim 11. This ground of rejection is respectfully traversed and reconsideration is requested.

King et al., relates to a two-channel global positioning system receiver in which one channel is used for continuously tracking one particular satellite and the other channel is used for sequentially tracking each of the plurality of the satellites except the one particular satellite that is being tracked by the other channel.

While applicant agrees with the Examiner's analysis of King et al., in that King teaches calibration of the receiver of the local oscillator through compensation of the "local oscillator frequency shifts occurring during the sequencing of time by using doppler information sampled from the continuous tracking channel", the step of performing a further parallel search "for all in-view satellites using a single frequency search cell per satellite" is not disclosed or suggested. In King et al., the further search is in sequence on a single channel and not in parallel. Note that:

"...Channels 24, 25 must be timed shared among six satellite signals.

In the present invention, one of the channels 24, 25 tracks a particular satellite signal for a 30 sec. interval. The other of channels 24, 25 tracks the other five satellites on a timed sequence basis."

This obviously is not a "further parallel search for all in-view satellites using a single frequency search cell per satellite."

Claims 6-10 were rejected under 35 USC 103 as being unpatentable over Geier in view of Darnell et al. patent No. 5,043,736 and this rejection is respectfully traversed.

Darnell discloses a portable locating unit handset comprising a cellular telephone and GPS system. While it is clear that the portable locating unit handset contains a remote receiver unit that receives information control signals from a base station via a cellular telephone and that the cellular telephone network functions as a wireless data channel, what is not disclosed as suggested by the Examiner is that "the base unit comprising a computer functions as a controller means connecting satellite message data, contained in the computer's memory, to the remote unit." The block diagram of Fig. 3 shows data flowing from the GPS receiver circuits 22 to computer circuits 24 and thence to the modem circuits 26 to the cellular circuit 28. There is, however, no disclosure in this reference that the base unit 18 transmits satellite message data to the remote unit receiver. As stated at column 3, lines 25-29 of Darnell, et al.:

"The base unit 18 is comprised of a computational system 18 for decoding position data received from remote units and includes a visual display 20 which presents the remote unit map coordinates on a map display."

And, further, at columns 3, lines 65, through column 4, line 4:

"Referring back to Fig. 2, once the signal is sent from the remote unit through the cellular phone system 16, and it is received at a CPU at the base unit, the computer 18 at the base unit will then decode the signal and translate it into information in a suitable display 20 which will show the geographical coordinates of latitude and longitude on a map on the display."

This is summarized at column 2 where Darnell et al. state:

"The base unit, which receives and coordinates the locations of various personnel at the remote stations, includes a computation system for decoding the position data transmitted from the remote units through the cellular telephone system. The base unit uses a computer that includes a visual display device showing a map upon which the decoded position data will be used to show coordinates in latitude and longitude of each remote unit."

But, there is no disclosure or suggestion of transmitting satellite message data blocks from the remote or control station via the cellular telephone to the GPS system of each mobile station.

In a very recent patent study, applicant noted a number of patents which antedate the disclosure in Darnell, et al. of use of a GPS system in conjunction with a cellular or radio telephone system as follows:

Rappaport EPO Patent Publication No. 0242099;

Brown, et al. PCT Int'l Publication No. WO89/12835;

Carton, et al. French Patent Publication 2541801;

EPO Patent Publication No. 0123562; and

Dennekamp, et al. U.S. Patent 4,750,197.

These patents are cited for the purpose of establishing the non-obviousness of applicants invention, namely, the use of a cellular telephone system for communicating to a mobile GPS receiver the satellite message data for speeding-up the acquisition of the satellite for range and position determinations.

In view of the above, further and favorable reconsideration is respectfully requested.

Respectfully submitted,

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